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May 4, 2007

Mr. Steven Plunkett
Alameda County Health Care Services Agency
Division of Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Site Assessment Work Plan

Olympian Cardlock Facility
8515 San Leandro Street,
Oakland, California
ACEHS Case #RO0002516
CRA Project # 161-560

Dear Mr. Plunkett:

On behalf of Olympian JV (Olympian), Conestoga-Rovers & Associates, Inc. (CRA) has prepared this *Site Assessment Work Plan* for the above referenced site.

If you have any questions or comments regarding this submittal, please call me at (510) 420-3327.

Sincerely,
Conestoga-Rovers & Associates, Inc.

Ron Scheele, P.G.
Senior Geologist

Attachment: *Site Assessment Work Plan*

cc: Ms. Janet Heikel, Olympian JV, 1300 Industrial Road, Suite 2, San Carlos, CA 94070
Mr. Ruben Hausauer, 2672 Warwick Place, Hayward, CA 94542

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SITE ASSESSMENT WORK PLAN

Olympian Cardlock Facility
8515 San Leandro Street
Oakland, CA
ACEHS Case # RO0002516
CRA Project #161560

May 4, 2007

Prepared for:

Ms. Janet Heikel
Olympian JV
1300 Industrial Road, Suite 2
San Carlos, California 94070

Prepared by:

Conestoga-Rovers & Associates, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608

Christina McClelland
Staff Geologist

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Ron Scheele, P.G.
Senior Geologist





SITE ASSESMENT WORK PLAN

Olympian Cardlock Facility
8515 San Leandro Street
Oakland, CA

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SITE ASSESSMENT WORK PLAN

**Olympian Cardlock Facility
8515 San Leandro Street
Oakland, CA**

1.0 INTRODUCTION

On behalf of Olympian JV, Conestoga-Rovers & Associates, Inc. (CRA) has prepared this *Site Assessment Work Plan* for the above referenced site. In a letter dated March 22, 2007, Alameda County Environmental Health Services (ACEHS) requested revision of the September 29, 2006 *Site Characterization Work Plan* prepared by TEC Accutite (Appendix A). Presented below is the site background, a summary of previous investigations, an evaluation of the contaminant distribution, and the proposed scope of work and schedule.

2.0 SITE BACKGROUND

2.1 Site Description

The site is located near the corner of San Leandro Street and 85th Avenue in Oakland, CA (Figure 1). Since 1995, the site has been occupied by a cardlock gasoline service station. Station facilities consisted of one 12,000-gallon gasoline underground storage tank (UST), one 5,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 15,000-gallon diesel UST and dispenser islands (Figure 2). The USTs and dispensing facilities are in compliance with 1998 upgrade requirements (City of Oakland, EHS upgrade compliance certificate # 11815).

The topography of the site is flat with an elevation of approximately 5 to 10 feet above mean sea level. The site is situated in a heavy industrial area and is currently owned by the Ruben and Catherine Hausauer Trust and operated by Nella Oil Company as a fuel service station.

2.2 Geology and Hydrogeology

Geology: The site is located within the Coast Range geomorphic province of California. In general, the Coast Range province consists of Jurassic eugeosynclinal basement rocks and Cretaceous and Cenozoic sedimentary and volcanic rocks that have been faulted and folded with a northwest-southeast trend. The site lies within the Bay Plains Basin. Sediments beneath the site consist of coalescing alluvial deposits from the Diablo Range to the east known as the San Leandro Cone. According to the Department of Water Resources, Bulletin 118 (2004), the site is located on quaternary age alluvial deposits consisting of medium-grained, unconsolidated, moderately sorted, and permeable, fine sand,



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silt, and clayey silt with thin beds of coarse sand. Soil beneath the site consists of clayey/sandy silt and silty clay to a maximum explored depth of 17 feet below ground surface (ft bgs)(Appendix B)

Hydrogeology: According to the Department of Water Resources, Bulletin 118 (2004), the site is located within the Santa Clara Valley Groundwater Basin in the East Bay Plain Subbasin. Historically, groundwater has been encountered between 7 and 9.5 feet (Table 1).

3.0 PREVIOUS INVESTIGATIONS

Below is the chronology of site assessment activities at the site. Historical soil and groundwater analytical data are presented in Tables 1 and 2.

June 1994, Phase I ESA and Phase II Soil Analysis: Artesian Environmental Consultants conducted a Phase I Environmental Site Assessment (ESA) and seven soil borings (B1 through B7) were advanced. Two soil samples and two grab groundwater samples (WB1 and WB7) were collected and submitted for laboratory analysis. All samples results were below laboratory detection limits for petroleum hydrocarbons.

June 2002, Environmental Baseline Report: In May 2002, GHH Engineering, Inc. (GHH) conducted a baseline environmental review as part of a property transaction between Olympian JV and Nella Oil Company. GHH staff inspected the property and determined that the subject property appeared clean and free of any notable petroleum hydrocarbon staining that could be indicative of surface spills. The oil/water separator appeared to be in good condition, with no evidence of cracks or significant staining.

GHH advanced a total of seven soil borings (GP1 through GP-7), and collected seven soil samples and one grab groundwater sample from the area of the underground storage tanks (USTs) and dispenser islands. Soil sampling indicated little to no presence of petroleum hydrocarbons in soil. The only detections included 238 milligram per kilogram (mg/kg) total petroleum hydrocarbons as motor oil (TPH-mo) in a soil sample taken near the dispenser area (GP6@5'), 80 mg/kg total recoverable petroleum hydrocarbons in a soil sample taken at the oil/water separator area (GP7@5'), and 0.012 mg/kg methyl-tert-butyl ether (MTBE) in a soil sample taken near a dispenser island (GP5@5'). Groundwater sampling indicated no presence of petroleum hydrocarbons except for 7.0 microgram per liter ($\mu\text{g/L}$) MTBE in a groundwater sample collected on the west side of the UST cavity (GP-1).

March 2003, Notice of Responsibility: On March 14, 2003, Olympian received a letter from Alameda County Environmental Health Services (ACEHS) of notification that the site had been



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placed in the Local Oversight Program and identified Olympian Oil as the primary or active responsible party.

January 2004, Site Status: On January 22, 2004, TEC Accutite prepared a letter report to summarize the site status. TEC Accutite recommended drilling and collecting additional soil and groundwater samples from this site to complete the site characterization. The ACEH concurred with TEC Accutite's recommendations in a regulatory letter dated March 6, 2006.

March 2006, Site Conceptual Model: TEC Accutite submitted a Site Conceptual Model (SCM) for the site and concluded that the site is qualified for "Site Closure" as a "Low Risk Groundwater Case".

March 2006, Site Characterization Work Plan: TEC Accutite submitted a Site Characterization Work Plan at the request of ACEHS to determine whether any petroleum hydrocarbon contamination remains in soil and groundwater beneath the site.

September 2006, Site Characterization Work Plan: TEC Accutite submitted a revised Site Characterization Work Plan incorporating the regulatory comments relating to the previously submitted Site Conceptual Model and Site Assessment Work Plan

CONTAMINANT DISTRIBUTION

4.1 Hydrocarbon Distribution in Soil

Soil sampling indicates that little to no petroleum hydrocarbon impact exists beneath the site, except for low levels of MTBE and high-boiling point hydrocarbons next to the easternmost dispenser island and oil/water separator. Impacted soil is of limited extent, and likely poses minimal human health or environmental risk due to the low volatility of the residual petroleum hydrocarbons.

4.2 Hydrocarbon Distribution in Groundwater

Grab groundwater sampling indicates that no dissolved-phase petroleum hydrocarbons are present beneath the site, except for minimal amount of MTBE on the west side of the UST. The low level of dissolved-phase MTBE (7 ug/L) suggests that the MTBE plume is likely of very limited extent and therefore represents a minimal amount of mass



5.0 PROPOSED SCOPE OF WORK

The objective of the proposed scope of work is to further verify the magnitude and extent of dissolved-phase hydrocarbons beneath the site. To achieve this objective, 5 soil borings will be drilled to first encountered groundwater, and a grab groundwater sample will be collected and submitted for laboratory analysis. A soil sample will also be collected from each boring for possible future laboratory analysis. See Figure 3 for proposed sampling locations.

5.1 Pre-Field Activities

Prior to initiating field activities CRA will conduct the following tasks:

5.1.1 Site Health and Safety Plan

A site-specific health and safety plan will be prepared to educate site workers and minimize their exposure to potential hazards related to site activities.

5.1.2 Permits

A soil boring permit will be obtained from Alameda County Public Works as needed.

5.1.3 Utility Clearance

The proposed boring locations will be pre-marked with white paint and Underground Service Alert (USA) will be notified of the boring activities at least 72 hours before work begins.

5.2 Soil Borings – Soil and Groundwater Sampling

Approximately 5 soil borings will be drilled using a hand auger or direct-push drilling rig to a depth of approximately 8-11 ft bgs. Historically, groundwater samples have been collected at 7 and 9.5 feet bgs. Soil samples will be collected from the unsaturated zone at approximately 5 ft. Soil will be visually examined and classified in a general accordance with Unified Soil Classification System (USCS). Field screening of hydrocarbons will include visual and/or olfactory observations, and photoionization detector (PID) readings. Pertinent information including soil lithology, PID readings, and sample depths will be recorded on a soil boring log. Grab groundwater samples will be collected from the open borehole or from temporary slotted casing using a new disposal bailer. Once a groundwater sample has been collected, the soil boring will be tremie grouted using cement grout. CRA's standard field procedures for drilling and sampling are presented as Appendix C.



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5.3 Chemical Analysis

Grab groundwater samples will be analyzed for TPHg and TPHd by EPA Method 8015M; and BTEX, EDB, EDC, MTBE, TAME, ETBE, DIPE, TBA and EtOH by EPA Method 8260. Soil Samples will be placed on laboratory hold pending the review of groundwater analytical data. If soil analysis is necessary, samples will be analyzed for the same constituents as listed above. Samples will be analyzed by a California-certified analytical laboratory

5.4 Investigation Derived Waste (IDW)

Investigation derived waste (IDW) generated during the site assessment activities will be temporarily stored onsite in Department of Transportation-approved 55-gallon drums. Following review of analytical results and disposal profiling, the IDW will be transported to an appropriate facility for disposal/recycling

6.0 REPORTING

Upon completing the field activities, CRA will prepare and submit a *Site Assessment Report* to the ACEH detailing the findings of the additional site assessment activities. At a minimum, this report will contain:

- The findings of site assessment activities;
- Descriptions of the soil boring/drilling methods;
- Descriptions of the groundwater sampling methods;
- Figures depicting the sampling locations;
- Tabulated groundwater analytical results;
- Soil boring logs;
- Analytical reports and chain-of-custody forms;
- Soil and groundwater disposal methods; and
- Our conclusions and recommendations.

If conditions indicate minimal impact of petroleum hydrocarbons, a formal *Site Closure Request* will also be included with the *Site Assessment Report*.



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7.0 SCHEDULE

Upon receiving written work plan approval from the ACEHS, CRA will commence implementation of the work plan. CRA will submit a *Site Assessment Report* to ACEHS within approximately 4 to 6 weeks following the completion of field activities.

8.0 REFERENCES

Artesian Environmental, 1994: Phase I Environmental Site Assessment, Phase II Soil Analysis, 8515 San Leandro Street Oakland, California, June 9.

Department of Water Resources, 2004: *California's Groundwater, Bulletin 118*.

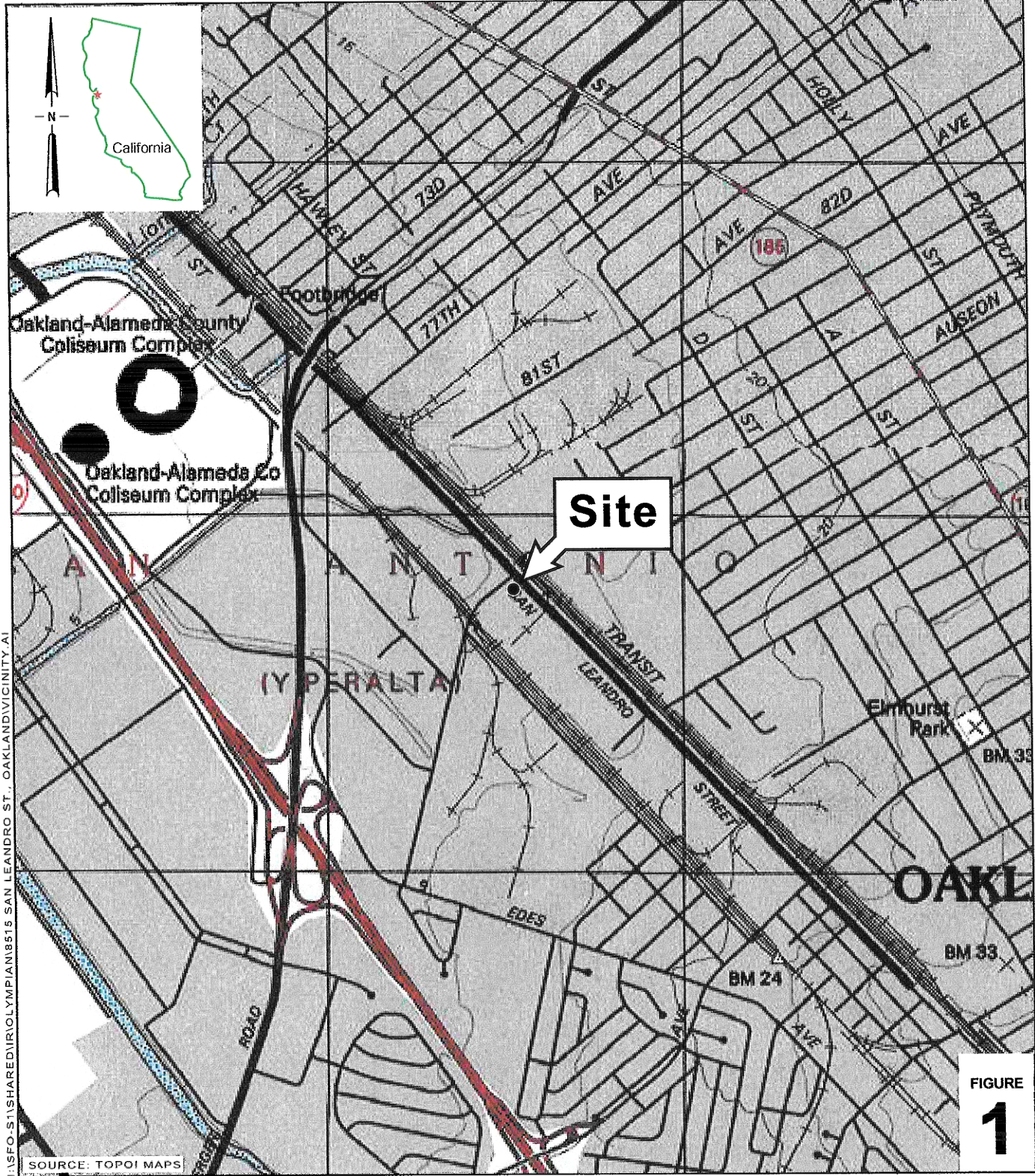
GHH Engineering, Inc., 2002: *Environmental Baseline Report*, Olympian Service Station, 8515 San Leandro Street Oakland, California, June.

TEC Accutite, 2004: *Site Status*, Olympian Service Station, 8515 San Leandro Street Oakland, California, January 22.

TEC Accutite, 2006: *Site Conceptual Model*, Olympian Service Station, 8515 San Leandro Street Oakland, California, March 27.

TEC Accutite, 2006: *Site Characterization Work Plan*, Olympian Cardlock Station, 8515 San Leandro Street Oakland, California, September 29.

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Olympian Cardlock Facility
 8515 San Leandro Street
 Oakland, California



Vicinity Map

EXPLANATION	
GP-1	Soil boring location (GHH Eng., 2002)
B1	Soil boring location (Artesian Env., 1994)

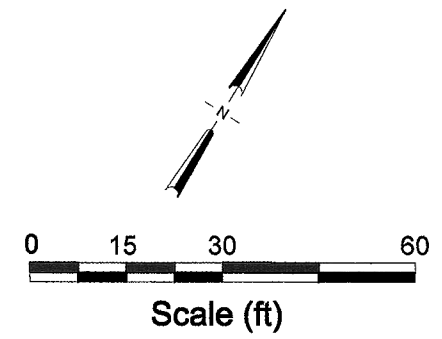
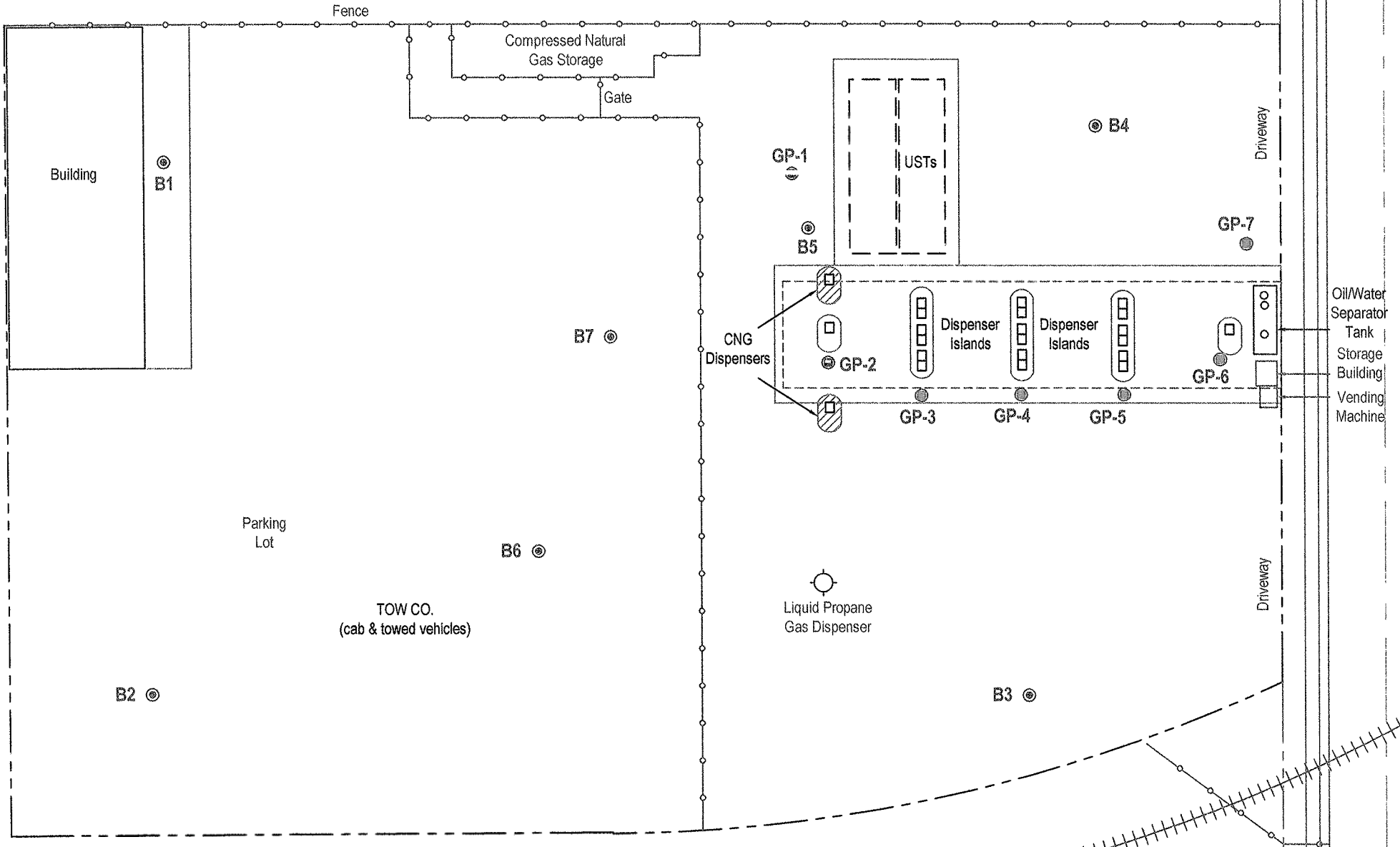
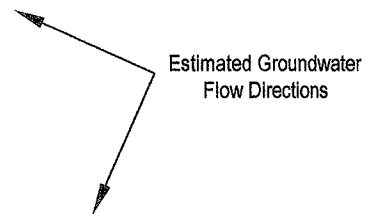


FIGURE 2

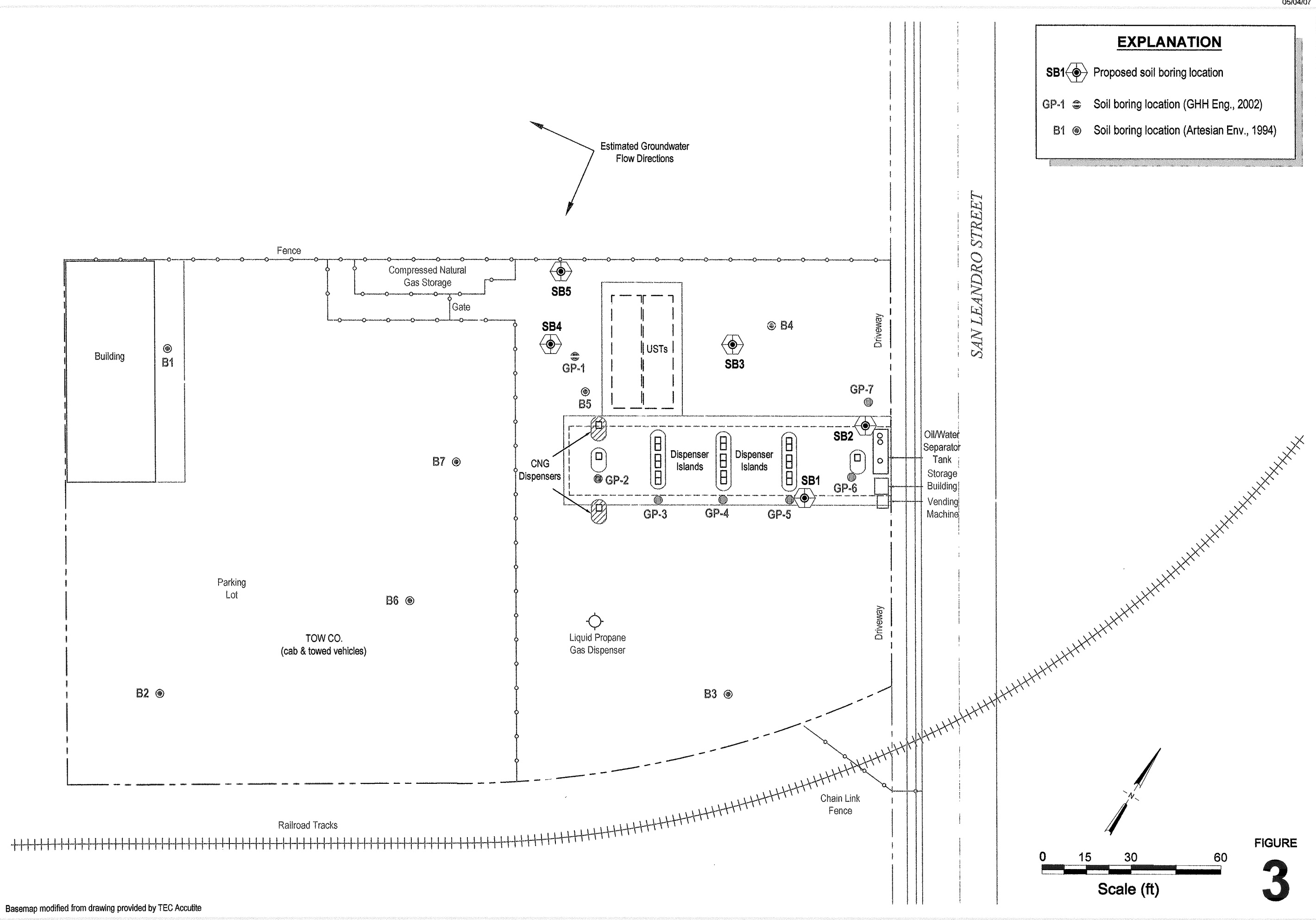
I:\SFO-S\1\SHARED\IR\OLYMPIAN\8515 SAN LEANDRO_OAKLAND\FIGURES\SITE PLAN.DWG

Basemap modified from drawing provided by TEC Accutite



Olympian Cardlock Facility
 8515 San Leandro Street
 Oakland, California

I:\SFO-S11\SHAREDIR\OLYMPIAN\8515 SAN LEANDRO_OAKLAND\FIGURES\PROP BORS.DWG



EXPLANATION	
SB1	Proposed soil boring location
GP-1	Soil boring location (GHH Eng., 2002)
B1	Soil boring location (Artesian Env., 1994)

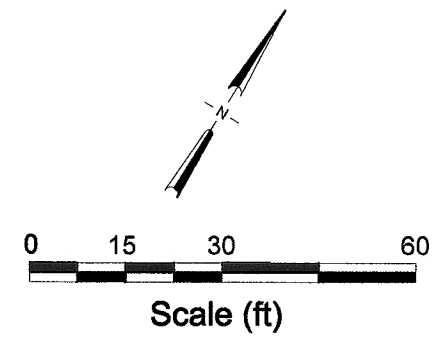


FIGURE 3

Basemap modified from drawing provided by TEC Accutite

Proposed Soil Boring Locations



Olympian Cardlock Facility
 8515 San Leandro Street
 Oakland, California

Conestoga-Rovers & Associates

Table 1. Groundwater Analytical Data - Olympian Cardlock Facility, 8515 San Leandro Street, Oakland, CA

Sample ID	Sample Depth (fbg)	Date	µg/L														
			TPHd	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	DIPE	ETBE	TAME	TBA	EDB	Ethanol	Methanol	1,2-DCA
Grab Groundwater and Hydropunch Samples:																	
WB1	9.5	5/25/1994	<50	<70	<0.5	<0.5	<0.5	<0.8	--	--	--	--	--	--	--	--	--
WB7	9.5	5/26/1994	<50	<70	<0.5	<0.5	<0.5	<0.8	--	--	--	--	--	--	--	--	<2.0
GP1	7	5/15/2002	<50	<50	<0.5	<0.5	<0.5	<0.5	7.0	<5.0	<5.0	<5.0	<5.0	<2.0	<1,000	--	<2.0

Notes:

-- = Not Applicable

<n = Not detected in sample above n µg/L

TPHd = Total petroleum hydrocarbons as diesel analyzed by modified EPA Method SW8015C with silica gel cleanup, and without silica gel cleanup in parenthesis.

TPHmo = Total petroleum hydrocarbons as motor oil analyzed by modified EPA Method SW8015C with silica gel cleanup, and without silica gel cleanup in parenthesis.

TPHg = Total petroleum hydrocarbons as gasoline analyzed by modified EPA Method SW8015C.

Benzene, Toluene Ethylbenzene and xylenes, Ethanol, and Methanol analyzed by EPA Method 8260B.

MTBE = Methyl tertiary-butyl ether analyzed by EPA Method SW8260B

DIPE, ETBE, TAME, TBA, EDB, and 1,2-DCA = Di-isopropyl ether, ethyl tertiary-butyl ether, tertiary-amyl methyl ether, tertiary butyl alcohol, ethylene dibromide, and 1,2-dichloroethane analyzed by EPA Method SW8260B.

1994 data collected by Artesian Environmental

2002 data collected by GHH Engineering

Conestoga-Rovers & Associates

Table 2. Soil Analytical Data - Olympian Cardlock Facility, 8515 San Leandro Street, Oakland, CA

Sample ID	Date	Depth (ft bgs)	TPHd	TPHmo	TPHg mg/kg	TRPH	Oil & Grease	µg/kg													
								Benzene	Toluene	Ethyl- benzene	Xylenes	MTBE	DIPE	ETBE	TAME	TBA	EDB	1,2-DCA	Ethanol	Methanol	
Soil Borings																					
B1/B2/B3/B4/B7	05/25/94	5	<50	--	<1.0	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	--	--	--	--	<5.0	--	--
B5/B6	05/26/94	5	--	--	--	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GP1	05/15/02	5	<1.0	<10	<1.0	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<10	<2.0	<2.0	<2.0	<1,000	--
GP2	05/15/02	5	<1.0	<10	<1.0	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<10	<2.0	<2.0	<2.0	<1,000	--
GP3	05/15/02	5	<1.0	<10	<1.0	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<10	<2.0	<2.0	<2.0	<1,000	--
GP4	05/15/02	5	<1.0	<10	<1.0	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<10	<2.0	<2.0	<2.0	<1,000	--
GP5	05/15/02	5	<1.0	<10	<1.0	--	--	<2.0	<2.0	<2.0	<2.0	12	<5.0	<5.0	<5.0	<10	<2.0	<2.0	<2.0	<1,000	--
GP6	05/15/02	5	<1.0	238	<1.0	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<10	<2.0	<2.0	<2.0	<1,000	--
GP7	05/14/02	5	--	--	--	80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

TPHd = Total petroleum hydrocarbons as diesel analyzed by modified EPA Method SW8015C.

TPHmo = Total petroleum hydrocarbons as motor oil analyzed by modified EPA Method SW8015C.

TPHg = Total petroleum hydrocarbons as gasoline analyzed by modified EPA Method SW8015C.

TRPH = Total Recoverable Petroleum Hydrocarbons analyzed by EPA Method 1664.

Oil & Grease analyzed by EPA Method 5520.

MTBE = Methyl tertiary-butyl ether analyzed by EPA Method SW8260B.

DIPE, ETBE, TAME, TBA, EDB, and 1,2-DCA = Di-isopropyl ether, ethyl tertiary-butyl ether, tertiary-aryl methyl ether, tertiary butyl alcohol, ethylene dibromide, and 1,2-dichloroethane analyzed by EPA Method SW8260B.

Ethanol and methanol analyzed by EPA Method SW8260B.

1994 data collected by Artesian Environmental

2002 data collected by GHH Engineering

mg/kg: milligrams per kilogram

µg/kg: milligrams per kilogram (note that analyses performed by GCMS are reported in units of µg/kg)

---: Indicates sample was not analyzed for the specific analyte



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Appendix A

Agency Correspondence

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

March 22, 2007

Ms. Janet Heikel
Olympian Oil
2000 Alameda de Las Pulgas, Suite 242
San Mateo, CA 94403

Mr. Ruben Hausauer
Ruben & Catherine Hausauer Trust
2672 Warwick Place
Hayward, CA 94542

Dear Ms. Heikel and Mr. Hausauer

Subject: Fuel Leak Case Number RO0002516, Olympian #975, 8515 San Leandro Street, Oakland, CA.

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site and the document entitled, "Site Characterization Work Plan," dated September 29, 2006 prepare by TEC Accutite (TEC). ACEH issued an approval letter for the Work Plan in November 2006. Subsequently, an informal request for closure initiated by Cambria Environmental Technology Inc. (Cambria) was submitted to ACEH in December 2006, following our approval of the previously mentioned Work Plan. As a result of the informal closure request and subsequent review by ACEH your report is late and your site is out of compliance with directives from this office. In order for your site to return to compliance, please **submit the previously requested Revised Work Plan by April 20, 2007**. This date is not an extension of your due date, reports for this site are late and your site is out of compliance.

After consideration and review of the informal request for closure presented by Cambria, ACEH has concluded that additional investigation is essential in order to evaluate potential dissolved phase petroleum hydrocarbon contamination associated with the unauthorized release at your site. If groundwater quality data indicate that dissolved phase petroleum hydrocarbon contamination is not a concern at the site, ACEH will move forward with the site closure process. However, if water quality data indicate residual groundwater contamination exists beneath your site, additional work may be required.

Based on ACEH staff review of the case file, we request that you address the following technical comments and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to steven.plunkett@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Grab Groundwater Sample Locations.** To satisfy ACEH requirements for case closure, collection and analysis of additional groundwater samples shall be conducted in the location

of the fuel dispensers and USTs (see Figure 3). The lack of groundwater data near the fuel dispensers, combined with the presence of MtBE in soil collected from soil boring GP-5 demonstrate that grab groundwater sampling is necessary to evaluate the extent of MtBE contamination associated with the unauthorized release from the fuel dispensers. In addition, no grab groundwater sample was collected from soil boring GP-7, where petroleum hydrocarbon contamination was also detected in soil. Furthermore, MtBE was detected in groundwater collected from soil boring GP-1, which is adjacent to the USTs, and may indicate a separate release associated with the USTs. Following additional review of the Work Plan, ACEH has concluded that soil borings SB-4, SB-5 and SB-6 are not needed at this time. However, soil boring SB-1 should be moved adjacent to soil boring GP-5, and thus assess the extent of possible groundwater contamination at this location. Soil samples are to be collected in conjunction with the grab groundwater samples, but placed on laboratory hold pending review of groundwater analytical data. Lastly, soil boring SB-3 should be relocated adjacent to the east side of the UST tank pit. Please prepare a revised work plan for the proposed investigation.

2. **Groundwater Sampling and Analysis.** ACEH requests that all groundwater samples be analyzed for the following constituents: TPHg and TPHd by EPA Method 8015M or 8260, BTEX, EDB, EDC, MtBE, TAME, ETBE, DIPE, TBA and EtOH by EPA Method 8260. Please include results from groundwater sampling in the Soil and Groundwater Investigation Report requested below.
3. **Soil Sampling and Analysis.** Should soil analysis be necessary, all soil samples are to be analyzed for the following constituents: TPHg and TPHd by EPA Method 8015M or 8260, BTEX, EDB, EDC, MtBE, TAME, ETBE, DIPE, TBA and EtOH by EPA Method 8260.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Steve Plunkett), according to the following schedule:

- **April 20, 2007** – Revised Work Plan
- **June 5, 2007** – Soil and Groundwater Investigation Report

These reports are being requested pursuant to California Health and Safety Code Section 25296.10, 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) now request submission of reports in electronic form. The electronic copy is intended to replace the need for a paper copy and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup

programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all reports is required in Geotracker (in PDF format). Please visit the State Water Resources Control Board for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

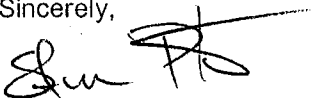
Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

If you have any questions, please call me at (510) 383-1767.

Sincerely,



Steven Plunkett
Hazardous Materials Specialist

Ms. Heikel and Mr. Hausauer
March 19, 2007
Page 4

cc: Ron Scheele
Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, Ca 94608

Donna Drogos, ACEH
Steven Plunkett, ACEH
File



**CONESTOGA-ROVERS
& ASSOCIATES**

Appendix B

Soil Boring Logs

Project Location: 8515 SAN LEANDRO ST.		Log of Soil Boring No. GP-1	
Date Started: 5/15/02		Total Depth: 15'	
Date Completed: 5/15/02		Seal: NEAT CEMENT	
Installed By: CL	Checked By:	from 15' to 0'	
Drilling Co.: ENPROB	Driller:		
Drilling Method: DIRECT PUSH		Drill Bit Diameter:	
Drilling Equipment: GEOPROBE		Sampler:	

Depth (feet)	Lithologic Description	Lithology	Sample	Blow Counts	Remarks
0	CLAYEY SILT, DARK GRAY				PID (HNU)
5					20 ppm
10	SAME AS ABOVE				18 ppm
15	SAME AS ABOVE TD = 15'				10 ppm
20					
25					
30					
35					



11960 Heritage Oak Place
 Auburn, CA 95603
 (530) 886-3100

Project Name: NELLA DUE DILIGENCE
 Project #: 5208.24

Project Location: 8515 SAN LEANDRO ST.		Log of Soil Boring No. GP-2	
Date Started: 5/15/02		Total Depth: 5'	
Date Completed: 5/15/02		Seal: NEAT CEMENT	
Logged By: CL		Checked By:	
Drilling Co.: ENPROB		Driller:	
Drilling Method: DIRECT PUSH		Drill Bit Diameter:	
Drilling Equipment: GEOPROBE		Sampler:	

Depth (feet)	Lithologic Description	Lithology	Sample	Blow Counts	Remarks
	Surface Elevation				
	SANDY SILT, VERY DARK BROWN				PID (HNU)
5	TD = 5'				0
10					
15					
20					
25					
30					
35					

Project Location: 8515 SAN LEANDRO ST.		Log of Soil Boring No. GP-3	
Date Started: 5/15/02		Total Depth: 5'	
Date Completed: 5/15/02		Seal: NEAT CEMENT	
Initiated By: CL		Checked By:	
Drilling Co.: ENPROB		Driller:	
Drilling Method: DIRECT PUSH		Drill Bit Diameter:	
Drilling Equipment: GEOPROBE		Sampler:	

Depth (feet)	Lithologic Description		Lithology	Sample	Blow Counts	Remarks
	Surface Elevation					
0		SANDY SILT, VERY DARK BROWN				PID (HNU)
5		TD = 5'				1 ppm
10						
15						
20						
25						
30						
35						

Project Location: 8515 SAN LEANDRO ST.		Log of Soil Boring No. GP-4	
Date Started: 5/15/02		Total Depth: 5'	
Date Completed: 5/15/02		Seal: NEAT CEMENT	
Logged By: CL		Checked By:	
Drilling Co.: ENPROB		Driller:	
Drilling Method: DIRECT PUSH		Drill Bit Diameter:	
Drilling Equipment: GEOPROBE		Sampler:	

Depth (feet)	Lithologic Description	Lithology	Sample	Blow Counts	Remarks
0	SANDY SILT, VERY DARK BROWN				PID (HNU)
5	TD = 5'				13 ppm
10					
15					
20					
25					
30					
35					

Project Location: 8515 SAN LEANDRO ST.		Log of Soil Boring No. GP-5	
Date Started: 5/15/02		Total Depth: 5'	
Date Completed: 5/15/02		Seal: NEAT CEMENT	
Logged By: CL	Checked By:	from 5' to 0'	
Drilling Co.: ENPROB	Driller:		
Drilling Method: DIRECT PUSH		Drill Bit Diameter:	
Drilling Equipment: GEOPROBE		Sampler:	

Depth (feet)	Lithologic Description		Lithology	Sample	Blow Counts	Remarks
	Surface Elevation					
0	SANDY SILT, VERY DARK BROWN					PID (HNU)
5	TD = 5'					21 ppm
10						
15						
20						
25						
30						
35						

Project Location: 8515 SAN LEANDRO ST.		Log of Soil Boring No. GP-6	
Date Started: 5/15/02		Total Depth: 5'	
Date Completed: 5/15/02		Seal: NEAT CEMENT	
Logged By: CL		Checked By:	
Drilling Co.: ENPROB		Driller:	
Drilling Method: DIRECT PUSH		Drill Bit Diameter:	
Drilling Equipment: GEOPROBE		Sampler:	

Depth (feet)	Lithologic Description	Lithology	Sample	Blow Counts	Remarks
	Surface Elevation				
	SANDY SILT, VERY DARK BROWN				PID (HNU)
5	TD = 5'				24 ppm
10					
15					
20					
25					
30					
35					

Project Location: 8515 SAN LEANDRO ST.		Log of Soil Boring No. GP-7	
Date Started: 5/15/02		Total Depth: 9'	
Date Completed: 5/15/02		Seal: NEAT CEMENT	
Installed By: CL	Checked By:	from 9' to 0'	
Drilling Co.: ENPROB	Driller:		
Drilling Method: DIRECT PUSH		Drill Bit Diameter:	
Drilling Equipment: GEOPROBE		Sampler:	

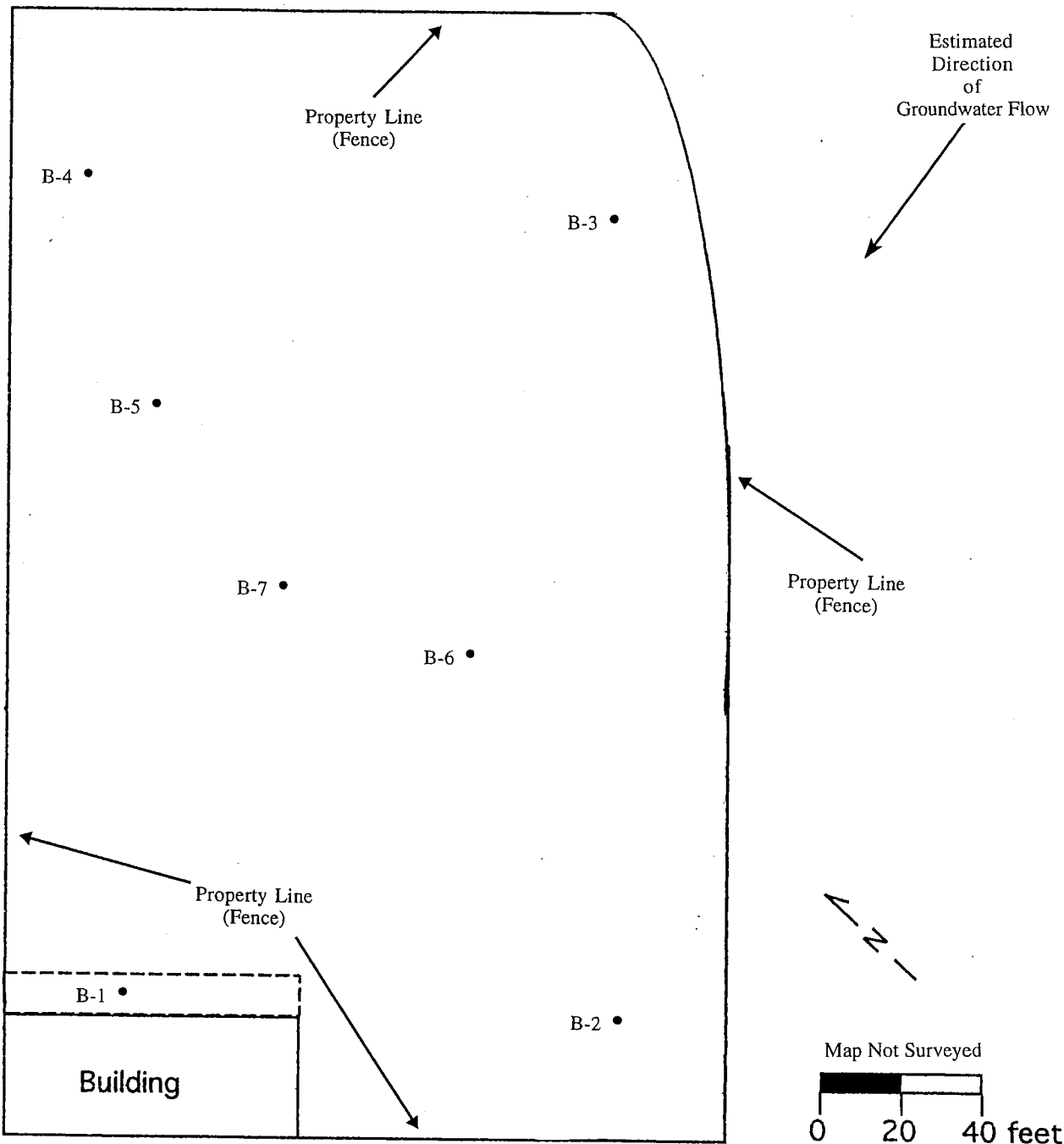
Depth (feet)	Lithologic Description		Lithology	Sample	Blow Counts	Remarks
	Surface Elevation					
0	SANDY SILT, DARK BROWN					PID (HNU)
9	TD = 9'					(NOT MEASURED)



11960 Heritage Oak Place
 Auburn, CA 95603
 (530) 886-3100

Project Name: NELLA DUE DILIGENCE
 Project #: 5208.24

San Leandro Street



ARTESIAN ENVIRONMENTAL CONSULTANTS
3100 Kerner Blvd., Suite C
San Rafael, California 94901
415-257-4801 Fax 415-257-4805

BOREHOLE LOCATIONS
Olympian Oil Company
8515 San Leandro Street
Oakland, CA

Project No.: 136-001-01

Date: 05/31/94

Prepared by: T. Fortner

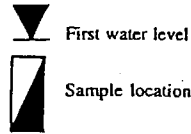
LOG DETAILS: BORING B1

PROJECT: Olympian Oil Co.

SITE LOCATION: 8515 San Leandro Street SITE NAME: Olympian ARTESIAN JOB NO.: 136-001-02
 CITY, STATE: Oakland, California CLIENT: Olympian PROJECT MANAGER: O. Jacobs

DATES DRILLED: 5-25-94	RIG TYPE: Direct Push	BORING DIA (in.): 1.4"	TOTAL DEPTH: 17.0
DATE COMPLETED: 5-26-94	DRILL TOOLS: Geoprobe	CASING TYPE / SIZE: NA	BAGS SAND: NA
LOGGED BY: T. Fortner	SAMPLING METH.: Probe Drive	SLOT INTER.: NA	SAND INTER.: NA
DRILLING CO.: Artesian	HAMMER WT.: NA	SAND TYPE: NA	BAGS BENTON.: 3%
DRILLER: J. Taylor	DROP (in.): NA	FIRST WATER: -9.5	BENT. INTER.: 0.5
INSPECTOR: NA	WELL DEV.: NA	STATIC WATER: NA	BAGS GROUT: 0.5
MW KEY / CVR ACC: NA	WELL COVER: NA	GROUT PLACEMENT: Gravity	GROUT INTER.: 0 - TD

NOTES: Water recharged well.



ARTESIAN ENVIRONMENTAL

3100 KERNER BLVD., SUITE C • SAN RAFAEL, CA 94901
 TEL (800) 959-4801; FAX (415) 257-4805

DRAWN BY TEF

DRAW DATE 5-27-94

DEPTH	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMP. #	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		CONCRETE: (4" thick)					
		CLAY: (ML) silty, brown					
-5			B1		0.0		
-10		CLAY: (ML) as above					
-15		CLAY: (SC) brown, fine graind sand					
							0 to TD: Bentonite (3%) cement grout seal.

LOG DETAILS: BORING B2

PROJECT: Olympian Oil Co.

SITE LOCATION: 8515 San Leandro Street SITE NAME: Olympian ARTESIAN JOB NO.: 136-001-02
 CITY, STATE: Oakland, California CLIENT: Olympian PROJECT MANAGER: O. Jacobs

DATES DRILLED: 5-25-94	RIG TYPE: Direct Push	BORING DIA (in.): 1.4"	TOTAL DEPTH: 15.5
DATE COMPLETED: 5-26-94	DRILL TOOLS: Geoprobe	CASING TYPE / SIZE: NA	BAGS SAND: NA
LOGGED BY: T. Fortner	SAMPLING METH.: Probe Drive	SLOT INTER.: NA	SAND INTER.: NA
DRILLING CO.: Artesian	HAMMER WT.: NA	SAND TYPE: NA	BAGS BENTON.: 3%
DRILLER: J. Taylor	DROP (in.): NA	FIRST WATER: -11.0	BENT. INTER.: 0.5
INSPECTOR: NA	WELL DEV.: NA	STATIC WATER: NA	BAGS GROUT: 0.5
MW KEY / CVR ACC: NA	WELL COVER: NA	GROUT PLACEMENT: Gravity	GROUT INTER.: 0 - TD

NOTES: Water recharged well.



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 3100 KERNER BLVD., SUITE C • SAN RAFAEL, CA 94901
 TEL (800) 959-4801; FAX (415) 257-4805

DRAWN BY TEF

DRAW DATE 5-31-94

DEPTH	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMP. #	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		CONCRETE: (4" thick)					
		CLAY: (SC) silty, brown, moist					
-5			B2		0.0		
-10							
		CLAY: (SC) as above					
-15							0 to TD: Bentonite (3%) cement grout seal.

LOG DETAILS: BORING B3

PROJECT: Olympian Oil Co.

SITE LOCATION: 8515 San Leandro Street SITE NAME: Olympian ARTESIAN JOB NO.: 136-001-02
 CITY, STATE: Oakland, California CLIENT: Olympian PROJECT MANAGER: O. Jacobs

DATES DRILLED: 5-25-94	RIG TYPE: Direct Push	BORING DIA (in.): 1.4"	TOTAL DEPTH: 15.0
DATE COMPLETED: 5-26-94	DRILL TOOLS: Geoprobe	CASING TYPE / SIZE: NA	BAGS SAND: NA
LOGGED BY: T. Fortner	SAMPLING METH.: Probe Drive	SLOT INTER.: NA	SAND INTER.: NA
DRILLING CO.: Artesian	HAMMER WT.: NA	SAND TYPE: NA	BAGS BENTON.: 3%
DRILLER: J. Taylor	DROP (in.): NA	FIRST WATER: -9.75	BENT. INTER.: 0.5
INSPECTOR: NA	WELL DEV.: NA	STATIC WATER: NA	BAGS GROUT: 0.5
MW KEY / CVR ACC: NA	WELL COVER: NA	GROUT PLACEMENT: Gravity	GROUT INTER.: 0 - TD

NOTES: Poor recharge



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DRAWN BY TEF

DRAW DATE 5-31-94

DEPTH	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMP. #	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		Topsoil: (6" thick) CLAY: (SC) silty, brown					
-5			B3		0.0		
-10							
-15		CLAY: (SC) as above					0 to TD: Bentonite (3%) cement seal.

LOG DETAILS: BORING B4

PROJECT: Olympian Oil Co.

SITE LOCATION: 8515 San Leandro Street
 CITY, STATE: Oakland, California

SITE NAME: Olympian
 CLIENT: Olympian

ARTESIAN JOB NO.: 136-001-02
 PROJECT MANAGER: O. Jacobs

DATES DRILLED: 5-25-94
 DATE COMPLETED: 5-26-94
 LOGGED BY: T. Fortner
 DRILLING CO.: Artesian
 DRILLER: J. Taylor
 INSPECTOR: NA
 MW KEY / CVR ACC: NA

RIG TYPE: Direct Push
 DRILL TOOLS: Geoprobe
 SAMPLING METH.: Probe Drive
 HAMMER WT.: NA
 DROP (in.): NA
 WELL DEV.: NA
 WELL COVER: NA

BORING DIA (in.): 1.4"
 CASING TYPE / SIZE: NA
 SLOT INTER.: NA
 SAND TYPE: NA
 FIRST WATER: -9.5
 STATIC WATER: NA
 GROUT PLACEMENT: Gravity

TOTAL DEPTH: 15.0
 BAGS SAND: NA
 SAND INTER.: NA
 BAGS BENTON.: 3%
 BENT. INTER.: 0.5
 BAGS GROUT: 0.5
 GROUT INTER.: 0 - TD

NOTES: Poor recharge



First water level

Sample location

ARTESIAN ENVIRONMENTAL

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 TEL (800) 959-4801; FAX (415) 257-4805

DRAWN BY TEF

DRAW DATE 5-31-94

DEPTH	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMP. #	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		Topsoil: (12" thick)					
		CLAY: (SC) silty, black, medium plasticity					
-5			B4		0.0		
-10		CLAY: (SC) as above					0 to TD: Bentonite (3%) cement seal.
-15							

LOG DETAILS: BORING B5

PROJECT: Olympian Oil Co.

SITE LOCATION: 8515 San Leandro Street SITE NAME: Olympian ARTESIAN JOB NO.: 136-001-02
 CITY, STATE: Oakland, California CLIENT: Olympian PROJECT MANAGER: O. Jacobs

DATES DRILLED: 5-25-94	RIG TYPE: Direct Push	BORING DIA (in.): 1.4"	TOTAL DEPTH: 15.0
DATE COMPLETED: 5-26-94	DRILL TOOLS: Geoprobe	CASING TYPE / SIZE: NA	BAGS SAND: NA
LOGGED BY: T. Fortner	SAMPLING METH.: Probe Drive	SLOT INTER.: NA	SAND INTER.: NA
DRILLING CO.: Artesian	HAMMER WT.: NA	SAND TYPE: NA	BAGS BENTON.: 3%
DRILLER: J. Taylor	DROP (in.): NA	FIRST WATER: NA	BENT. INTER.: 0.5
INSPECTOR: NA	WELL DEV.: NA	STATIC WATER: NA	BAGS GROUT: 0.5
MW KEY / CVR ACC: NA	WELL COVER: NA	GROUT PLACEMENT: Gravity	GROUT INTER.: 0 - TD

NOTES: Surface stain



Sample location

ARTESIAN ENVIRONMENTAL

3100 KERNER BLVD., SUITE C • SAN RAFAEL, CA 94901
 TEL (800) 959-4801; FAX (415) 257-4805

DRAWN BY TEF

DRAW DATE 5-31-94

DEPTH	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMP. #	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		Topsoil: (4" thick) CONCRETE: (4" thick) CLAY: (ML) silty, black					0 to TD: Bentonite (3%) cement seal.
-5		CLAY: (ML) as above	B5		0.0		

LOG DETAILS: BORING B6

PROJECT: Olympian Oil Co.

SITE LOCATION: 8515 San Leandro Street SITE NAME: Olympian ARTESIAN JOB NO.: 136-001-02
 CITY, STATE: Oakland, California CLIENT: Olympian PROJECT MANAGER: O. Jacobs

DATES DRILLED: 5-25-94	RIG TYPE: Direct Push	BORING DIA (in.): 1.4"	TOTAL DEPTH: 15.0
DATE COMPLETED: 5-26-94	DRILL TOOLS: Geoprobe	CASING TYPE / SIZE: NA	BAGS SAND: NA
LOGGED BY: T. Fortner	SAMPLING METH.: Probe Drive	SLOT INTER.: NA	SAND INTER.: NA
DRILLING CO.: Artesian	HAMMER WT.: NA	SAND TYPE: NA	BAGS BENTON.: 3%
DRILLER: J. Taylor	DROP (in.): NA	FIRST WATER: NA	BENT. INTER.: 0.5
INSPECTOR: NA	WELL DEV.: NA	STATIC WATER: NA	BAGS GROUT: 0.5
MW KEY / CVR ACC: NA	WELL COVER: NA	GROUT PLACEMENT: Gravity	GROUT INTER.: 0 - TD

NOTES:



Sample location

ARTESIAN ENVIRONMENTAL

3100 KERNER BLVD., SUITE C • SAN RAFAEL, CA 94901
 TEL (800) 959-4801; FAX (415) 257-4805

DRAWN BY TEF

DRAW DATE 5-31-94

DEPTH	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMP. #	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		Topsoil: (6" thick)					
		CLAY: (ML) silty, dark brown					
-5		CLAY: (ML) as above	B6		0.0		0 to TD: Bentonite (3%) cement seal.

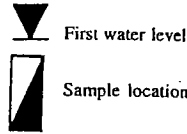
LOG DETAILS: BORING B7

PROJECT: Olympian Oil Co.

SITE LOCATION: 8515 San Leandro Street SITE NAME: Olympian ARTESIAN JOB NO.: 136-001-02
 CITY, STATE: Oakland, California CLIENT: Olympian PROJECT MANAGER: O. Jacobs

DATES DRILLED: 5-25-94 DATE COMPLETED: 5-26-94 LOGGED BY: T. Fortner DRILLING CO.: Artesian DRILLER: J. Taylor INSPECTOR: NA MW KEY / CVR ACC: NA	RIG TYPE: Direct Push DRILL TOOLS: Geoprobe SAMPLING METH.: Probe Drive HAMMER WT.: NA DROP (in.): NA WELL DEV.: NA WELL COVER: NA	BORING DIA (in.): 1.4" CASING TYPE / SIZE: NA SLOT INTER.: NA SAND TYPE: NA FIRST WATER: -9.5 STATIC WATER: NA GROUT PLACEMENT: Gravity	TOTAL DEPTH: 15.0 BAGS SAND: NA SAND INTER.: NA BAGS BENTON.: 3% BENT. INTER.: 0.5 BAGS GROUT: 0.5 GROUT INTER.: 0 - TD
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NOTES: Poor recharge



ARTESIAN ENVIRONMENTAL

3100 KERNER BLVD., SUITE C • SAN RAFAEL, CA 94901
 TEL (800) 959-4801; FAX (415) 257-4805

DRAWN BY TEF

DRAW DATE 5-31-94

DEPTH	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMP. #	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		CONCRETE: (8" thick)					
		CLAY: (SC) sandy, dark brown, moist					
-5			B7		0.0		0 to TD: Bentonite (3%) cement seal.
-10		CLAY: (SC) as above					
-15							



**CONESTOGA-ROVERS
& ASSOCIATES**

Appendix C

Standard Operating Procedures

Conestoga-Rovers & Associates

STANDARD FIELD PROCEDURES FOR HAND-AUGER SOIL BORINGS

This document describes Conestoga-Rovers & Associates' standard field methods for drilling and sampling soil borings using a hand-auger. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e. sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or product saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e. cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Boring and Sampling

Hand-auger borings are typically drilled using a hand-held bucket auger to remove soil to the desired sampling depth. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the augered hole. The vertical location of each soil sample is determined using a tape measure. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

Augering and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Conestoga-Rovers & Associates

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable photoionization detector (PID) measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. PID measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory QA/QC blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

The borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

5/3/07

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Conestoga-Rovers & Associates

STANDARD FIELD PROCEDURES FOR GEOPROBE® SAMPLING

This document describes Cambria Environmental Technology's standard field methods for GeoProbe® soil and ground water sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- Approximate percentage of each grainsize category,
- Color,
- Approximate water or separate phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Sampling

GeoProbe® soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon® tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Conestoga-Rovers & Associates

Field Screening

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech® or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Grab Ground Water Sampling

Ground water samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4° C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.